IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) A method for determining whether a gene product has an activity of interest comprising:

(a) co-transfecting a cell with

(i) a first vector ~~comprising a gene coding for a test protein~~ selected from a library of vectors, at least two members of said library comprising genes which encode different test proteins, and

(ii) a second vector comprising a gene ~~coding for~~ which encodes a reporter protein, wherein said reporter protein affects or regulates a biological process in said cell;

(b) expressing said different test ~~protein~~ proteins and said reporter protein in a transfected cell;

(c) measuring abundance and/or activity of said reporter protein by observation of an indicator of said biological process in said transfected cell, wherein said abundance and/or activity of said reporter protein is modulated by the presence of a protein ~~having said activity of interest~~ that modulates said reporter protein; and

(d) ~~determining whether said test protein has said activity of interest~~ screening said library for one or more members which encode test proteins that modulate said reporter protein.

2. (original) The method of claim 1, wherein said first vector and/or said second vector further comprise promoter sequences.

3. (original) The method of claim 1, wherein co-transfecting comprises contacting said cell with said first vector, said second vector, and a transfection reagent.

4. (currently amended) The method of claim 3, wherein said transfection reagent is at least one proprietary lipid composition selected from the group consisting of:

(i) ~~DMIRE-C, cellFECTIN®~~ CELLFECTIN® which is a liposome formulation of N,N',N'',N'''-tetramethyl- N,N',N'',N'''-tetrapalmitoylspermine (TM-TPS) and dioleoyl phosphatidylethanolamine (DOPE) in 1:1.5 (M/M) respectively,

(ii) ~~lipofectin®~~ LIPOFECTIN® which is a liposome formulation of N-[1-(2,3-dioleyloxy)propyl]-N,N,N-trimethylammonium chloride (DOTMA) and dioleoyl phophotidylethanolamine (DOPE) in 1:1 (w/w) ratio respectively, ~~oligofectAMINE™,~~

(iii) ~~lipofectAMINE™~~ LIPOFECTAMINE™ which is a liposome formulation of 2,3-dioleyloxy-N-[2(sperminecarboxamido)ethyl]-N,N-dimethyl-1-propanaminium trifluoroacetate (DOSPA) and dioleoyl phosphatidylethanolamine (DOPE) in 3:1 (w/w) ratio respectively, ~~lipofectAMINE PLUS™, lipofectAMINE 2000™, fugene, Effectene,~~

(iv) ~~TransFast™~~ TRANSFAST™ which is a mixture of (+)-N,N [bis (2-hydroxyethyl)]-N-methyl-N-[2,3-di(tetradecanoyloxy)propyl] ammonium iodide and L-dioleoyl phosphatidylethanolamine (DOPE),

(v) ~~Tfx™~~ TFX™ which is a mixture of [N,N,N',N'-tetramethyl-N,N'-bis(2-hydroxyethyl)-2,3-di(oleoyloxy)-1,4-butanediammonium iodide] and L-dioleoyl phosphatidylethanolamine (DOPE), and

(vi) ~~Transfectam®~~ TRANSFECTAM® which is dioctadecylamidoglycyl spermine (DOGS), ~~siPORT™ amine, siPORT™ lipid, and GeneJuice~~.

Claim 5 (canceled)

6. (previously presented) The method of claim 3, wherein co-transfecting comprises:

(i) coating a well of a multi-well plate with a polycation polymer;

(ii) contacting said cell with said first vector, said second vector, and said transfection reagent in said well; and

(iii) incorporating said first and said second vectors in said cell to produce said transfected cell.

7. (previously presented) The method of claim 1, wherein abundance of said reporter protein is measured.

8. (original) The method of claim 7, wherein said reporter protein is measured by luminescence.

9. (original) The method of claim 7, wherein said reporter protein is measured by a binding assay for said reporter protein.

10. (original) The method of claim 7, wherein said reporter protein is measured by electrophoretic analysis.

11. (previously presented) The method of claim 1, wherein said activity of said reporter protein is an enzymatic activity that catalyzes the reaction of a substrate to form a product, and said enzymatic activity is measured by adding said substrate and measuring consumption of said substrate and/or formation of said product.

12. (original) The method of claim 11, wherein said enzyme activity is selected from the group consisting of β-galactosidase activity, β-lactamase activity, and luciferase activity.

Claim 13 (canceled)

14. (original) The method of claim 13, wherein said indicator is selected from the group consisting of change is cell morphology, change in abundance of a native protein, change in post-translational modification of a native protein, change in transcription of a native gene, and change in secretion of a native protein.

15. (previously presented) The method of claim 1, wherein said activity of said reporter protein is aggregation and said reporter protein is Sup35.

16. (previously presented) The method of claim 1, wherein said activity of interest is pro-apoptotic or anti-apoptotic activity.

17. (previously presented) The method of claim 1 further comprising: confirming that expression of said test protein results in a change in an indicator of apoptosis by another assay.

18. (original) The method of claim 17, wherein said indicator of apoptosis is selected from the group consisting of DNA fragmentation, caspase activation, annexin staining on the outer membrane, DNA ladder formation, and production of cleavage products of caspase such as DFF45, alpha fodrin, or lamin A.

19. (previously presented) The method of claim 1 further comprising: repeating said method with another cell having a different genetic background.

Claim 20 (canceled)

21. (original) The method of claim 20, wherein said library comprises at least 1000 different genes.

22. (previously presented) The method of claim 20, wherein said cell is co-transfected in a multi-well plate.

23. (previously presented) The method of claim 1 further comprising:

(d) repeating said method using a third vector instead of said first vector, said third vector differing from said first vector in that it

i) does not code for a protein;

ii) codes for a protein that is known to not have the activity of interest or

iii) does not have a promoter sequence; and

(e) comparing the activity and/or abundance of the reporter protein measured with said first vector and said third vector to determine whether said test protein has said activity of interest.

24. (previously presented) The method of claim 1 further comprising:

(d) repeating said method without said first vector; and

(e) comparing the activity and/or abundance of the reporter protein measured with and without said first vector to determine whether said test protein has said activity of interest.

25. (new) A method for determining whether a gene product has an activity of interest comprising:

(a) treating a well of a multi-well plate with a transfection reagent;

(b) adding to said well (i) a first cell preparation, (ii) a first vector selected from a library of vectors, at least two members of said library comprising genes which encode different test proteins, and (iii) a second vector comprising a gene which encodes a reporter protein, wherein said reporter protein affects or regulates a biological process in said cell;

(c) incubating the multi-well plate to allow cells to incorporate the first and the second vectors;

(d) expressing said different test proteins and said reporter protein in a transfected cell;

(e) measuring abundance and/or activity of said reporter protein by observation of an indicator of said biological process in said transfected cell, wherein said abundance and/or activity of said reporter protein is modulated by the presence of a protein that modulates said reporter protein;

(f) screening said library for one or more members which encode test proteins that modulate said reporter protein; and

(g) repeating (a) to (e) in an additional well of said multi-well plate with a further cell preparation having the same or different genetic background as said first cell preparation.

26. (new) The method of claim 25, wherein said library comprises at least 1000 different genes.

27. (new) The method of claim 25, wherein said transfection reagent comprises a lipid preparation.

28. (new) The method of claim 27, wherein said transfection reagent further comprises a targeting moiety.

29. (new) The method of claim 27, wherein said lipid preparation comprises a cationic lipid preparation.